

**REMARKS**

The Official Action of December 1, 2004, and the prior art cited and relied upon therein have been carefully studied. Favorable reconsideration and such allowance are respectfully urged.

New independent claim 17 has been added. Claims 1-17 remain in the application. Claims 9 and 11 have been withdrawn from consideration as being directed to non-elected invention.

In response to the Examiner's rejection of claim 1 under 35 U.S.C. §112, second paragraph, Applicant has amended the language in question to eliminate the problem identified by the Examiner. Applicant respectfully submits that this rejection has now been overcome.

The Examiner has further rejected claims 1-3, 8, 10 and 12-16 under 35 U.S.C. §103(a) as being unpatentable over Mintgen '028 and claims 1-8, 10 and 12-16 under 35 U.S.C. §103(a) as being unpatentable over EP '972. Applicant respectfully traverses both of these rejections.

Mintgen is directed to an adjustable-length compression spring having a controllable valve 20 for interconnection of sectional casing chambers 13, 14. The controllable valve 20 can be operated via a valve pin 18. Also, Mintgen's compression spring has an automatic overload

valve comprising a valve ball 26 being pre-loaded in a shut-off position via a valve spring 27. In case the pressure in the casing chamber 13 exceeds the overload limit, automatic valve 26, 27 opens and allows a fluid passage between casing chambers 13, 14 even when the controllable valve is blocked.

It is essential that Mintgen's automatic valve only serves overload security purposes as is described in column 1, lines 48 to 51. The expert knows that the critical overload pressure at which such an automatic overload valve must open exceeds the normal push-out force by magnitudes. This normal push-out force or extension force is the force exercised by the energy accumulator on the piston rod in direction of extension thereof when the controllable valve is open.

Such automatic overload valves are constructed in a rigid way and stay blocked even when very high pressures but below the critical overload limit are present. There is no possibility to open such an automatic overload valve e.g. by hand trying to overcome the blocking of the blocked controllable valve.

The expert therefore trying to improve a blockable adjustable-length compression spring being movable even when the controllable valve is blocked would not take into account prior art compression springs including an automatic overload valve.

On the contrary, the expert trying to improve prior art adjustable-length compression springs with a controllable blocking valve would tend to include the function "overcoming the blocking of the controllable valve" in the controllable valve itself. This would lead to a complicated controllable valve with high production costs.

Once the inventors of the present application realized that the concept of an additional automatic valve also could be applicable to include the additional function "overcoming the blocking of the controllable valve", they had in addition to do a lot of experimental work which was far from routine to determine the correct force limits giving a proper relation between the overcoming force  $F_1$  and the push-out or extension force  $F_2$  as is stipulated in claim 1 and to develop an automatic valve working accordingly. The spring and operating characteristics of the automatic overload valves of the prior art did not help at all during this design work.

Accordingly, Applicant respectfully submits that the subject of currently amended claim 1 is patentable over Mintgen.

The disclosure of EP '972 which is also relied upon by the examiner does not go beyond that of Mintgen as discussed above.

Therefore, Applicant submits that the subject of new claim 1 also is patentable over EP '972.

As to new claim 17, which is a combination of the features of claims 1 and 4, it is noted that the examiner interprets Fig. 2 of EP 1 101 972 in a way that the valve ring 21 depicted there is illustrated as a composite body non-metallic layer. Applicant respectfully disagrees. Fig. 2 of EP 1 101 972 shows a longitudinal section through a part of a compression spring showing a controllable blocking valve and an automatic overload valve. The automatic overload valve includes a valve ring 21. The surface of this valve ring 21 facing towards a ring chamber communicating with a through-bore 19 is shown as a thicker line compared to the corresponding counter-surface. It is noted that the valve spring 20 also is depicted with lines of a corresponding thickness. Nobody would interpret that the thicker lines of the valve spring 20 as a hint to a non-metallic material. The same holds with respect to the valve ring 21. Therefore, the interpretation that the valve spring 20 of EP 1 101 972 has a layer of non-metallic material is non-obvious. The thicker line of the valve ring 21 could mean a lot of different items, e.g. a hardened surface or a polished or in an other manner treated surface etc. Nowhere in the description of EP 1 101 972 is a hint that this valve ring is a composite body.

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Accordingly, Applicant respectfully submits that new claim 17 is patentable over EP '972.

Acknowledgement by the PTO of the receipt of applicants' papers filed under Section 119 is noted.

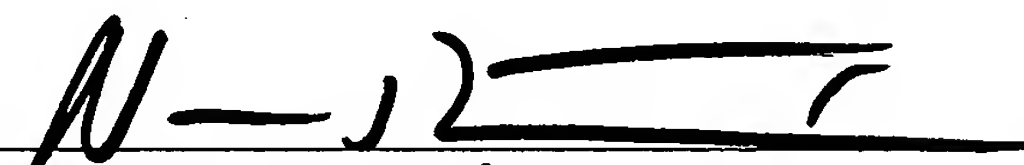
The prior art documents made of record and not relied upon have been noted along with the implication that such documents are deemed by the PTO to be insufficiently pertinent to warrant their applications against any of applicant's claims.

Favorable reconsideration and allowance are earnestly solicited.

Respectfully submitted,

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